Module Description

University of AL-Kafeel / College..... Academic Year (2020-2021)

Stage:	Fourth stage
Specialization:	Pharmacy
Name of the Course in Arabic	الكيمياء الصيدلانية العضوية II
Name of the Course in English	Organic Pharmaceutical Chemistry II
Goals:	▪ Studying methods of drugs' discovery. ▪ Studying methods of drugs' development to produce a more pwerful and less harmful therapeutic agents. ▪ Studying structure-activity relationship of drugs.
Description	The course is devoted to the discovery and development of new agents for treating diseases, and enables translating the drug structural formula into therapeutic effect. Additionally, it focuses on the methods of preparation for some pharmaceutical agents.
Number of Theoretical lectures	3
Number of Practical lectures	2
Credits	4
Name of Instructor in Arabic	أ.م.د ضرغام قاسم شهيد (نظري) , جواد كاظم جواد الشمس (عملي)
Name of Instructor in English	Jawad kadhum jawad alshamis
Title	استاذ مساعد دكتور (ضرغام قاسم), مدرس (جواد كاظم)
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Curriculum / Theoretical:

Week	Syllabus
1	Cholinergic agents, cholinergic receptors and their subtypes.
2	Cholinergic agonists; stereochemistry and structure-activity relationships (SAR); products; cholinesterase inhibitors.
3	Cholinergic blocking agent; structure-activity relationships (SAR); Solanaceous alkaloid and analogues; synthetic cholinergic blocking agents and products; ganglionic blocking agents (neuromuscular blocking agents).
4	Analgesic agents (SAR of morphine, SAR of meperidine type molecules; SAR of methadone type compounds; N-methylbezomorphans, antagonist type analgesics in benzomorphans).
5	Analgesic receptors, endogenous opioids; Products; Antitusive agents; Anti-inflammatory analgesics.
6	Adrenergic agents (Adrenergic neurotransmitters); Adrenergic receptors; Drugs affecting Adrenergic neurotransmission; Sympathomimetic agents; Adrenergic receptor antagonists.
7	CNS depressant; Benzodiazepines and related compounds; Barbiturates; CNS depressant with skeletal muscle relaxant properties; Antipsycotics; Anticonvulsants.

Curriculum / Practical:

Week	Syllabus
1	Preparation of salicylic acid.
2	Re-crystallization of salicylic acid.
3	Synthesis of aspirin.
4	Re-crystallization of aspirin.
5	Assay of aspirin (known sample).
6	Assay of aspirin (unknown sample).
7	Preparation of nitrobenzene.
8	Preparation of aniline.
9	Preparation of acetanilide.
10	Re-crystallization of acetanilide.
11	Chlorosulfonation of acetanilide.
12	Amination of ***p***-chlorobenzene sulfonyl chloride.
13	Hydrolysis of ***p***-chlorobenzene sulfonyl chloride to sulfanilamide.
14	Assay of sulfa drugs (known sample).
15	Assay of sulfa drugs (unknown sample).

References :

Main References :

[1] ***Wilson and Gisvold Textbook of Organic Medicinal and Pharmaceutical Chemistry; Delgado JN, Remers WA, (Eds.); Latest edition.***

[2] ***Lab Handbook for Practical Pharmaceutical Chemistry Adopted by the Department***